CHISTYAKOV, A.

Without mean-spirited guardianship. Okhr.truda i sots.strakh.
5 no.12:23 D '62.
(MIRA 16:2)

1. Tekhnicheskiy inspektor Permskogo oblastnogo soveta
professional'nykh soyuzov.
(Perm Province--Industrial hygiene)

CHISTYAKOV, A.A.

Moscow. Aviatsionnyy tekhnologicheskiy institut

Issledovaniya v oblasti tekhnologii aviadvigateley; [sbornik] (Studies
    in the Field of Technology of Aircraft Engines; Collection of
    Articles) Moscow, Oborongiz, 1959. 100 p. (Series: Its: Trudy,
    vyp. 36) 2,100 copies printed.

Ed. (Title page): A.S. Ivanov, Professor; Ed. (Inside book):
    S.I. Bumshteyn, Engineer; Ed. of Publishing House: N.A. Gortsuyeva;
    Tech. Ed.: V.I. Oreshkina; Managing Ed.: A.S. Zaymovskaya,
    Engineer.

PURPOSE: This book is intended for engineering and technical workers,
    scientific research institutes, for teachers, aspirants, and
    students of higher educational institutions specializing in the
    technology of machine building.

COVERAGE: This is a collection of articles generalizing the results
    of the research work done by the Department of Aircraft Engine

Card 1/6

Studies in the Field of Technology (Cont.)   SOV/1932

Technology of MATI (Moscow Aviation Technological Institute). The articles deal with various branches of technology and economics of the aviation industry. Some of the articles may be of interest to workers outside the aviation industry. The collection describes results of investigations of the following problems: use of centralizing devices in the machining parts on lathes, analysis and design of cutting tools using ultrasonic vibrations, improvement of the quality of dynamic balancing high-velocity rotors, gluing metals, determination of the work required to produce attachments, and the engineering utility of constructions.

TABLE OF CONTENTS:

    This article describes investigations of the use of centrifugal force for holding parts during machining operations. Experimental

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Studies in the Field of Technology (Cont.)   SOV/1932

and theoretical investigations were carried out at Moskovskiy tormoznoy zavod (Moscow Brake Plant) and MATI (Moscow Aviation Technology Institute). Mention is made of an instrument with a warm gear drive designed and manufactured by TIZPRIBOR (Heat-measuring Instrument Plant in Moscow). A dynamometer produced by TsNIITMASh (Central Scientific Research Institute of Heavy Machinery and Metalworking) is also mentioned. There are no references.

Metelkin, V.V., and I.V. Metelkin. Design and Calculation of   21
an Ultrasonic Machine Tool
    This article describes the shape of the tool, its holding devices, and tool wear. Tools for ultrasonic machining may be made of structural steel 05, 20, 30, 40, 45; of high carbon steels U7, U8, U10;   of the alloy D 16T; or of brass or Monel metal. There are 3 references: 1 Soviet, 1 English, and 1 French.

Chistyakov, A.A., Candidate of Technical Sciences. On methods of   34
Determining Allowances in Balancing Rotors of Turbojet Engines
    Practical recommendations for reducing vibrations of high r.p.m.

Card 3/6

Studies in the Field of Technology (Cont.)   SOV/1932

rotors are given. The investigation was carried on at MATI. First
attempts to solve this problem for rotor ventilators "Sirokko" were
made by B.V. Shitikov. V.A. Samdylov studied the problem of vibra-
tions of turbine units of electric power stations and rotors.
A.P. Dinerman investigated static and dynamic balancing of steam
turbine rotors. N.V. Kolesnik studied static and dynamic balancing
of machine parts. To determine the allowable unbalance of rotors
the theory of Gerts-Belyayev and the works of G.A. Ignat'yev are
recommended. The following instruments are referred to: transmit-
ters EDS, 2UG1-48, MV-21, MG-21; regenerator of sonic frequency
ZG-2A; Ferromagnetic electrotachometer type FT-49; electrotacho-
meter type TE-20; oscillograph MPO-2. There are 10 references, all
Soviet.

Chistyakov, A. A., Candidate of Technical Sciences. Method of Checking
Bearings of Rotors of Turbojet Engines for Admissible Vibrations   54
    Recommendations are given for increasing the time limits
of rotor-bearing service in turbojet engines. The theoretical
investigations were made at MATI. The following equipment is
mentioned: Gishol't, Shenk, and Lozengauzen balancing machines;
oscillograph MPO-2. Anti-friction brass BrOS10-10 is also
referred to. There are no references.

Card 4/6

Studies in the Field of Technology (Cont.)   SOV/1932

Kasatikov, T.P., Candidate of Technical Sciences, and G.V. Filatov,
Engineer. Using Epoxide Glue in the Construction of Tooling   63
Equipment
    The article describes the advantages of epoxide gluing over
other means of joining, such as riveting, bolting, welding, and
gluing with other glues. The following products are mentioned:
glues BF, PU-2, PU-3; firm coating NIAT-1; tars ED-3, ED-6, E40.
There are no references.

Kasatikov, I.P., Candidate of Technical Sciences. Preliminary
Evaluation of Work Requirements in the Production of Machine   68
Tool Attachments
    The author presents several methods for preliminary determina-
tion of requirements for machine tool preparation. The methods
are as follows: (1) total number of codes, (2) volume of design
work, (3) standard items, (4) qualitative and quantitative char-
acteristics of typical parts, and (5) design factors (coefficients).

Gevorkyan, A.M., Candidate of Technical Sciences. Increasing Work
Output and Decreasing Production Costs in Mass Production Plants   83
Card 5/6

CHISTYAKOV, A.A., kandidat tekhnicheskikh nauk.

Increasing the precision of dynamic balancing of rotors in high-speed turbomachines on antifriction bearings. Trudy MATI no.32:169-204 '57. (MLRA 10:8)
(Rotors) (Balancing of machinery) (Turbomachines)

CHISTYAKOV, A.A.

Mechanized ash removal. Spirt. prom. 24 no.2:28 '58.   (MIRA 11:3)
(Ash disposal)

CHISTYAKOV, A.A.

Transporting salt on a belt conveyor. Spirt. prom. 24 no.3:40 '58.

(MIRA 11:6)

(Conveying machinery)

CHISTYAKOV, A.A.

Geomorphological indications of recent movements in the northern part of the Nogay Steppe. Vest.Mosk.un.Ser.Biol.,pochv.,geol., geog. 11 no.2:147-154 '56.   (MIRA 10:10)

1. Kafedra dinamicheskoy geologii.
                    (Nogay Steppe--Geology, Structural)

CHISTYAKOV, A. A.: Master Geolog-Mineralo Sci (diss) -- "The most recent tectonics and geomorphology of the eastern portion of the basin of the river Zeravshan".
Moscow, 1958. 21 pp (Moscow Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov, Geology Faculty, Chair of Dynamic Geology), 110 copies

(KL, No 4, 1959, 123)

CHISTYAKOV, A.A.

Quaternary period tectonics of the western part of Zeravshan River basin. Nauch. dokl. vys. shkoly; geol. nauki no.3:144-149 '58.   (MIRA 12:1)

1.Moskovskiy universitet, geologicheskiy fakul'tet kafedra dinamicheskoy geologii.
            (Zeravshan Valley--Geology, Structural)

CHISTYAKOV, A.A.

Geological structure and neotectonics of the upper Zeravshan
Valley. Vest. Mosk. un. Ser. biol., pochv., geol., geog. 13
no.2:137-146 '58.
(MIRA 11:9)

1. Moskovskiy gos. universitet. Kafedra dinamicheskoy geologii.
   (Zeravshan Valley—Geology, Structural)

CHISTYAKOV, A.A.

Some characteristics of the formation and structure of
mountain alluvium based on a study of the Zeravshan River.
Vest.Mosk.un.Ser.biol., pochv., geol., geog. 14 no.2:
113-121 '59.   (MIRA 13:4)

1. Kafedra dinamicheskoy geologii Moskovskogo gos. universiteta.
           (Zeravshan Valley--Alluvium)

YAKUSHOVA, A.F.; CHISTYAKOV, A.A.

Geomorphological features of recent uplifts. Vest.Mosk.un.Ser.4:
Geol. 15 no.2:27-37 Mr-Ap '60.   (MIRA 14:4)

1. Kafedra dinamicheskoy geologii Moskovskogo universiteta.
                        (Geology, Structural)

CHISTYAKOV, A.A.

Some structural characteristics of gravity in the Turkestan and
Zeravshan Ranges.   Vest. Mosk. un. Ser. 4: Geol. 16 no.1:57-64
Ja-F '61.   (MIRA 14:3)

1. Kafedra dinamicheskoy geologii Moskovskogo universiteta.
           (Tien Shan—Rocks, Sedimentary)

CHISTYAKOV, A.A.

Geomorphology and recent tectonics of the western extremities of
the Kopet-Dag. [Uch.zap.] Mosk.un. no.192:113-120 '61.
                                                    (MIRA 15:7)
    (Kopet-Dag—Geology, Structural) (Kopet-Dag—Geomorphology)

CHISTYAKOV, A.A.

Some characteristics of the structure and formation of bottom
lands in the piedmont zone. Izv.vys.ucheb. zav.; geol.i razv. 5 no.6:
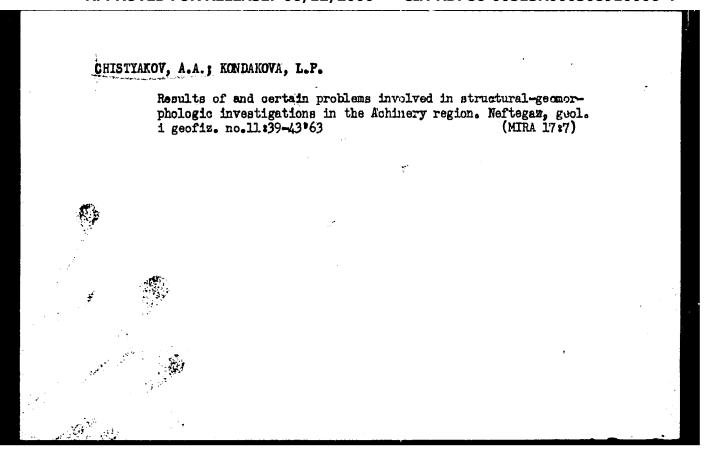32-35 Je '62.
(MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet i meni Lomonosova.
(Zeravshan Valley--Alluvial lands)

KOSTENKO, N.P.; CHISTYAKOV, A.A.

Some characteristics of the recent development of mountain
troughs as revealed by the studies in the Zeravshan trough.
Biul.Kom.chetv.per. no.27:107-117 '62.   (MIRA 16:4)
                    (Zeravshan Range region—Geology)

CHISTYAKOV, A.A.; KONDAKOVA, L.P.

Results of and certain problems involved in structural-geomor-
phologic investigations in the Achimery region. Neftegaz, geol.
i geofiz. no.11:39-43'63   (MIRA 17:7)

YAKUSHOVA, A.F.; SYAGAYEV, N.A.; CHISTYAKOV, A.A.; KONDAKOVA, L.P.;
FILATOV, O.M.; ULITSKIY, Yu.A.; SYRNEV, I.P.

Main characteristics of the geomorphology and recent tectonics in
the Volga-Don territory. Trudy NILneftegaza no.13:171-186 '65.
(MIRA 18:9)

L 36534-66   EWT(d)/EWT(l)/EWT(m)/EWP(w)/EWP(f)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l)/

ACC NR: AT6001716   IJP(c)   JD/WW/EM/DJ/GD SOURCE CODE: UR/0000/65/000/000/0478/0496

AUTHOR: Chistyakov, A. A.

ORG: none

TITLE: Determination of permissible unbalance of aviation gas turbine rotors

SOURCE: Uravnoveshivaniye mashin i priborov (Balancing of machinery and instruments).
Moscow, Izd-vo Mashinostroyeniye, 1965, 478-496

TOPIC TAGS: gas turbine, turbine rotor, rotor   balance

ABSTRACT: The problem of specifying permissible gas turbine rotor unbalance is
considered, and a detailed discussion is given of existing literature on the subject.
A method for specifying permissible unbalances has been developed at MATI which is
based on the permissible contact stresses in the rotor bearings. An analysis of the
bearing loads of an unbalanced rotor is presented, and the bearing loads due to an
elliptical (worn) shaft in journal and ball bearings are derived. An effective
eccentricity of unbalance is defined, and an expression for it is derived in the form

$$e_s = \frac{900}{n^2 n^3} \cdot \frac{C_H}{m}$$

(where C_H is a function of the unbalanced weight, etc, and m and n are respectively
the mass and rpm of the rotor). Descriptions of experiments performed with represent-
ative rotors are given.   The calculated permissible unbalances agreed within 5% of
the experimental, and it is concluded that this method provides realistic unbalance
specifications. Orig. art. has: 8 figures and 22 formulas.

SUB CODE: 21/ SUBM DATE: 04Sep65/ ORIG REF: 011

Card 1/1

CHISTYAKOV, A.D.; KUNITSA, I.S.; PETROV, I.F., red.; DEYEV, P.G.,
        tekhn. red.

    [Omsk Province; facts and figures] Omskaia oblast'; tsifry
    i fakty. Omsk, Omskoe knizhnoe izd-vo, 1962. 220 p.
                                            (MIRA 16:12)

    (Omsk Province—Economic conditions)

Chistyakov A.D.

ASTAPENKO, P.D., kand.geograficheskikh nauk; BURTSEV, A.I., kand.fiziko-
matematicheskikh nauk; GUROV, V.P., kand.fiziko-matematicheskikh
nauk; ZVEREV, A.S., kand.fiziko-matematicheskikh nauk; ZUBYAN, G.D.,
doktor geograficheskikh nauk; MININA, L.S., kand.geograficheskikh nauk;
MOROZKIN, A.A., inzhener-meteorolog; RUPPERT, L.L., kand.geografiche-
skikh nauk; SERGEYEV, B.M., inzhener-meteorolog; SAMOYLOV, A.I.,
kand.fiziko-matematicheskikh nauk; TURKETTI, Z.L., kand.geografiche-
skikh nauk; CHERNOVA, V.F., starshiy nauchnyy sotrudnik; CHISTYAKOV,
A.D., kand.fiziko-matematicheskikh nauk; POGOSYAN, Kh.P., prof.,red.;
YASNOGORODSKAYA, M.M., red.; BRAYNINA, M.P., tekhn.red.

[Synoptic study atlas] Uchebnyi sinopticheskii atlas. Leningrad,
Gidrometeor. izd-vo. Pt.2. (Sost. P.D.Astapenko i dr.) 1957.
90 fold. maps (in portfolio)__ __ __ [Practical recommendations
and assignments for students using the "Synoptic study atlas"
Metodicheskie rkomendatsii i zadaniia dlia studentov k "Uchebnomu
sinopticheskomu atlasu," chast' 2. Sost. A.S.Zverev. 1957. 87 p.
(MIRA 11:3)

1. TSentral'nyy institut prognozov (for Chernova)
        (Climatology--Charts, diagrams, etc.)

3,5000

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 8, pp. 93-94,
10404

AUTHOR: Chistyakov, A. D.

TITLE: The Forecast of Temperature and Wind in the Upper Troposphere and
Lower Stratosphere

PERIODICAL: Tr. In-ta fiz. atmosf. AN SSSR, 1958, No. 2, pp. 160-166

TEXT: The work was performed in 1951. The author starts, for solving the
problem raised from the system of forecast equations obtained by I. A. Kibel'
(1950) for the baroclinic atmosphere. In this solution, the connection of the
quantities $\partial z/\partial t$, $\partial T/\partial t$, and w with the vorticity advection and the temperature
advection is found at various levels. The corresponding formulae contain
integrals only over the vertical (more precise, over p) of the vorticity advec-
tion and $\partial \tau/\partial t$. (The solution is obtained in this form, because the unknown
function is approximately expressed through the value of the right-hand part of
the equation only at one point, when solving the Poisson equation at the same
point of the surface). The computational formulae obtained on the basis of the

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S/124/60/000/008/008/011
A005/A001

The Forecast of Temperature and Wind in the Upper Troposphere and Lower
Stratosphere

given solution for $\partial z/\partial t$, $\partial T/\partial t$, and w at various levels are presented in the
form of the sums of the values of vorticity advection and temperature advection
at various levels, multiplied by the corresponding weights. The values of
vorticity advection and temperature advection enter these sums only at points of
that vertical, which passes through the point of forecast. The method proposed
makes it possible to take into account the variation of the parameter of the
static atmospheric stability with the altitude. Tables of the calculated weight
factors are presented for computing $\partial z/\partial t$, $\partial T/\partial t$, and w at the levels 1,000,
850, 700, 500, 300, and 200 mb. The same six isobaric surfaces serve in all
cases as "affecting" levels. On the basis of the computational formulae certain
qualitative conclusions are drawn on the factors, which determine the vertical
motions in the atmosphere. The author uses a graphical procedure - the transfer
along the isolines B - for the conversion from the formulae of $\partial z/\partial t$ and $\partial T/\partial t$
to the forecast of z and T. Some examples of forecast of the charts AT 300 and
AT 200 were calculated on the basis of the method described, as well as the

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S/124/60/000/008/008/011
A005/A001

The Forecast of Temperature and Wind in the Upper Troposphere and Lower Stratosphere

forecast of the temperature and the speed of the geostrophic wind at these levels. An example of the next charts AT 300 and AT 200 is added, and the criteria of successfulness of temperature and wind forecast at these levels are given.

S. L. Belousov

Translator's note: This is the full translation of the original Russian abstract.

Card 3/3

AUTHOR: Chistyakov, A.D.   50-58-3-6/22

TITLE: The Average Level in the Atmosphere (Sredniy uroven' v atmosfere)

ABSTRACT: The local variation of the height of isobaric surfaces is de-
              termined from:

$$\frac{\partial H_n}{\partial t} = \frac{1}{m\, q_0}\int_{P_0}^{0} \frac{g}{l}\,(\Delta H, H)\,dp + \frac{R}{g}\left(\frac{1}{P_0}\int_{q_0}^{0}\frac{\partial T}{\partial t}\,dp - \int_{q_0}^{P}\frac{\partial T}{\partial t}\,\frac{dp}{p}\right)$$

where H denotes the absolute geopotential of the isobaric surface.
p = pressure (vertical axis of coordinates)
P_0 = pressure equal to 1000 mb   R = gas constant
g = gravity   T = temperature
l = Coriolis parameter   t = time

$$\Delta = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2}$$

The second term of the right part is called the thermal factor
of the variation of H denoted by: $\left(\frac{\partial H_p}{\partial t}\right)_T$.

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·The Average Level in the Atmosphere   50-58-3-6/22

The level, for which $\frac{R}{g}\left(\frac{1}{q_0}\int_{q_0}^{0}\frac{\partial T}{\partial t}\,dp-\int_{q_0}^{P}\frac{\partial T}{\partial t}\right)=0$

is called the average level of the atmosphere.

If $\frac{\partial T}{\partial t}$ is determined in degrees per 24 hours and $\left(\frac{\partial H_p}{\partial t}\right)_T$
in dynamic decameters per 24 hours, the coefficients a for the decomposition of $\left(\frac{\partial H_p}{\partial t}\right)_T$ are represented by tables. The determination of the height of the average level was carried out on the
basis of $\left(\frac{\partial H_p}{\partial t}\right)_T=0$. In the atmosphere two or more average levels are found in 89% of all cases. One of them is in the troposphere, the others are in the stratosphere. If only an average level is developed, it is near the isobaric surface of 300 mb. There are 2 tables, and 1 reference, 1 of which is Soviet.

1. Atmosphere—Physical properties   2. Mathematics

Card 2/2

ASTAPENKO, P.D.; BEL'SKAYA, N.N.; BUSHUK, V.I.; BUSHUK, O.A.; GUROV, V.P.; ZUBYAN, G.D.; KATS, A.L.; MININA, L.S.; MOROZKIN, A.A.; PAVLOVSKAYA, A.A.; POGOSYAN, Kh.P.; SAMOYLOV, A.I.; SMIRNOV, P.I.; TARAKANOV, G.G.; TURKETTI, Z.L.; CHERNOVA, V.F.; CHISTYAKOV, A.D.

[Synoptic atlas for schools]Uchebnyi sinopticheskii atlas. Pod red. Kh.P.Pogosiana. 3, perer. i dop. izd. Leningrad, Gidrometeo-izdat, 1962. 217 gold.col.maps.   (MIRA 16:3)
___[Assignments for students]Zadaniia dlia uchashchikhsia. Pod red.Kh.P.Pogosiana. 138 p. ___[Methodological instructions and recommendations for teachers]Metodicheskie ukazaniia i rekomen-datsii dlia prepodavatelei. Pod red. Kh.P.Pogosiana. 73 p.
(Meteorology—Charts, diagrams, etc.)

CHISTYAKOV, A.D.

Third session of the Comission of Synoptic Meteorology of the
Worldwide Meteorological Organization. Meteor.i gidrol. no.11:
70-72 N '62.   (MIRA 15:12)

(Meteorology—Congresses)

USPENSKIY, B.D.,doktor fiz.-mat. nauk, prof.; BELOUSOV, S.L.; kand.
fiz.-mat. nauk; PYATYGINA, K.V.; YUDIN, M.I.; MERTSALOV,
A.N., kand. fiz.-mat. nauk; DAVYDOVA, O.A.; KUPYANSKAYA,
A.P.; PETRICHENKO, I.A.; MORSKOY, G.I.; TOMASHEVICH, L.V.;
SAMOYLOV, A.I.; ORLOVA, Ye.I.; DZHORDZHIO, V.A.; PETRENKO,
N.V.; DUBOVYY, A.S.; ROMOV, A.I.; PETROSYANTS, M.A.; GLAZOVAYA,
S.P.; BATYAYEVA, T.F.; BEL'SKAYA, N.N.; CHISTYAKOV, A.D.;
GANDIN, L.S.; BURTSEV, A.I.; MERTSALOV, A.N.; BAGROVYY, N.A.;
BELOV, P.N.; ZVEREV, A.S., retsenzent; SIDENKO, G.V., red.;
red.; DUBENTSOV, V.R., kand. fiz.-mat. nauk, nauchn. red.;
SAGATOVSKIY, N.V., red.; BUGAYEV, V.A., doktor geogr. nauk,
prof., red.; ROGOVSKAYA, Ye.G., red.

[Manual on short-range weather forecasts] Rukovodstvo po
kratkosrochnym prognozam pogody. Leningrad, Gidrometeoizdat.
Pt.1. Izd.2., perer. i dop. 1964. 519 p.   (MIRA 18:1)

1. Moscow. TSentral'nyy institut prognozov.

CHISTYAKOV, A.D.; BURKOVA, M.V.; ORLOVA, Ye.M.; GLAZOVA, O.P.;
        PED', D.A.; HERLYAND, M.Ye.; ABRAMOVICH, K.G.; POPOVA,
        T.P.; MATVEYEV, L.T.; BACHURINA, A.A.; LEBEDEVA, N.V.;
        PESKOV, B.Ye.; ROMANOV, N.N.; VOLEVAKHA,N.M.; PCHELKO,
        I.G.; PETRENKO. N V. ; KOSHELENKO, I.V.; PINUS, N.Z.;
        SHMETER, S.M. BATSAYEVA, T.F.; MININA, L.S.; BEL'SKAYA,
        N.N., nauchn. red.; ZVEREVA, N.I., nauchn. red.;
        KURGANSKAYA, V.M., nauchn. red.; MERTSALOVA, A.N., nauchn.
        red.; TOMASHEVICH, L.V., nauchn. red.; SAGATOVSKIY, N.V.,
        otv. red.; KOTIKOVSKAYA, A.B., red.

[Manual of short-range weather forecasting] Rukovodstvo
po kratkosrochnym prognozam pogody. Leningrad, Gidro-
meteoizdat. Pt.2. Izd.2. 1965. 491 p.
                                    (MIRA 18:8)
1. Moscow. TSentral'nyy institut prognozov.

CHISTYAKOV, A.F., inzh.

Heating of the oil and drives of 35 to 110 kv. cutouts during winter operation. Energetik 10 no.3:8 Mr '62.   (MIRA 15:2)
(Electric cutouts)
(Insulating oil)

CHISTYAKOV, Aleksandr Fedorovich; PERVOMAYSKIY, G.S., red.; SHEVCHENKO,
F.Ya., tekhn.red.

[Rat mite (Ornithonyssus basoti) and dermatitis in human beings]
Krysinyi kleshch i dermatity u liudei. Leningrad, Gos.izd-vo med.
lit-ry Medgiz, Leningr.otd-nie, 1960. 93 p.

(MIRA 13:11)

(RAT MITE)   (SKIN--DISEASES)

CHISTYAKOV, A.F., kand.med.nauk

Epidemiology and clinical aspects of skin diseases caused by
the bites of chicken mites. Vest.derm. i ven.   33 no.3:14-18
My-Je '59.   (MIRA 12:9)

1. Iz kafedry (nach. - chlen-korrespondent AMN SSSR - prof.S.T.
Pavlov) kozhnykh i venericheskikh bolezney Voyenno-meditsinskoy
ordena Lenina akademii imeni S.M.Kirova.
          (TICKS
               Dermanyssus gabbinae bites causing skin dis.,
               epidemiol. & clin. picture (Rus))
          (SKIN DISEASES,
               caused by Dermanyssus gabbinae bites, epidemiol.
               & clin. picture (Rus))

CHISTYAKOV, A. F., kand. med. nauk

Late results of the treatment of syphilis without arsenic preparations. Vest. derm. i ven. 34 no.1:54-57 Ja '60.

(MIRA 14:12)

1. Iz kafedry kozhnykh i venericheskikh bolezney (nach. - chlen-korrespondent AMN SSSR prof. S. T. Pavlov) Voyenno-meditsinskoy ordena Lenina akademii imeni S. M. Kirova.

(SYPHILIS)

CHISTYAKOV, A.F., kand.med.nauk

Functional state of the capillaries of the skin in eczema and neurodermatitis. Vest.derm.i ven. no.11:16-21 '61.   (MIRA 14:11)

1. Iz kafedry kozhnykh i venericheskikh boleznsy (nach. - chlen-korrespondent AMN SSSR prof. S.T. Pavlov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
     (ECZEMA)   (SKIN—DISEASES)   (CAPILLARIES)

CHISTYAKOV, A.F.

Ways of dissemination of Dermanyssus gallinae in human residences.
Med. paraz. i paraz. bol. 32 no.3:355-356 My-Je'63   (MIRA 17:3)

1. Iz kafedry kozhnykh i venericheskikh bolezney Voyenno-medi-
tsinskoy ordena Lenina akademii imeni Kirova.

CHISTYAKOV, A.F., kand. med. nauk (Leningrad)

Functional state of the capillaries in psoriasis. Vest. derm. i
ven. no.2:19-22 '64.   (MIRA 17:11)

ACC NR: AR6035109   SOURCE CODE: UR/0137/66/000/008/E026/E026

AUTHOR: Pesenson, A. Ye.; Rivkin, A. L.; Steykunas, R. I.; Chistyakov, A. I.

TITLE: Low-current welding rectifier

SOURCE: Ref. zh. Metallurgiya, Abs. 8E165

REF SOURCE: Sb. Svarochn. vypryamiteli. Vil'nyus, 1965, 121-126

TOPIC TAGS: welding electrode, welding equipment, rectifier, welding rectifier
/ VSKG-30 welding rectifier

ABSTRACT: A description is given of the VSKG-30 low amperage welding rectifier,
which was developed and produced at the All-Union Scientific Research Institute of
Electric Welding Equipment (UNIIESO) together with the Vilnius Branch. It is
intended for use in welding of thin-walled parts in an Ar or He medium with a
tungsten electrode. The rectifier consists of a step-down transformer, a satura-
tion choke coil with an attachment for welding a crater and controlling the welding
current, an oscillator for arc excitation, an Si-rectifying unit, and start-controlling,
measuring, and protecting units. With a 30% duty cycle the rectifier is designed for

Card 1/2   UDC: 621.791.75.037

ACC NR: AR6035109

welding currents up to 30 amp with control limits of 1—32 amp; the time for welding a crater can be set within 1—6 sec. Orig. art. has: 3 figures. R. Sychev. [Translation of abstract] [NT]

SUB CODE: 13/

Card 2/2

CHISTYAKOV, A.I., inzh.; KHUVIN, L.A., inzh.

Automatic system for feeding phosphate into the feed water
of boilers. Energetik 11 no.3:10-11 Mr '63.
(MIRA 16:4)

(Boilers)   (Feed water)

TALYPOV, G.B.; CHISTYAKOV, A.I.

Effect of high preliminary plastic deformations on the yield limit of low-carbon steel. Issl. po uprug. i plast. no.3:249-251 '64. (MIRA 18:4)

S/123/62/000/008/011/016
A004/A101

AUTHOR: Chistyakov, A. I.

TITLE: Selecting the number of teeth in gearings

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 8, 1962, 43, abstract
8A294 ("Sb. nauchn. tr. Leningr. inzh.-stroit. in-t, 1960, no. 32,
49-57)

TEXT: The author presents a brief survey on different methods of selecting
the number of teeth for a pair of gears (or several pairs) according to the given
transmission ratio. He analyzes a new method of solving this problem developed
on the basis of the number theory. It is pointed out that the suggested method
can be applied both in the designing and in redesigning and modernization of
reducers and gear boxes, which are being replaced in part or in full. In finding
out all variants (based on the analyzed method), transmission ratio i is multi-
plied by the resolving factor a, the latter being chosen in such a way that the
transmission ratio is converted into an integral number, the resolving factor
being taken depending on the necessary number of gear pairs while the quantity of
its co-factors should be equal or greater than the number of gear pairs. Then

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Selecting the number of teeth in gearings

S/123/62/000/008/011/016
A004/A101

number ia is factorized into prime factors and all divisors of this number are
found which are ordered in pairs in 2 columns; for three pairs of gears the
numbers of the second column are also factorized in 2 factors; for four pairs
of gears the numbers of the third column are also factorized into 2 co-factors,
etc. After this, the minimum number of teeth of the gear is taken and all
variants are written down. The suggested method is of abolute accuracy, and only
for the case of the transmission ratio being a periodic decimal fraction, it is
a necessary condition to take the desired degree of accuracy,

[Abstracter's note: Complete translation]

Card 2/2

CHISTIAKOV, Aleksei Ivanovich; L'VITSYN, N.P., redaktor; KHITROV, P.A., tekhnicheskiy redaktor.

[Railroad transport of meat products, dairy products, and eggs]
Perevozka miasnykh, molochnykh produktov i iaits po zheleznym do-
rogam. Moskva, Gos. transp. zhel-dor. izd-vo, 1954. 114 p.(MLRA 7:11)
        (Railroads--Freight) (Farm products--Transportation)

CHISTYAKOV, A.I., starshiy prepodavatel'

Behavior of a gyroscopic stabilizer on a pivot base. Izv.vys.
ucheb.zav.; prib. no.3:40-49 '59.   (MIRA 13:4)

1. Kazanskiy aviatsionnyy institut. Rekomendovana kafedroy
AP-2.
                    (Gyroscope)

13.2520

AUTHOR: Chistyakov, A. I.

TITLE: Forced displacements of power gyrosystems

TEXT: The behavior of a single-axis gyrostabilizer with an inclined gyroscope axis on a swinging support is discussed. A simplified system of equations (in which the dry friction is replaced by a viscous one) is solved that describes the moment of the axis of a gyrostabilizer in the case of a loaded and an unloaded gyrostabilizer whilst taking into account values of second order magnitude.

[Abstracter's note: Complete translation.]

Card 1/1   E-62-1229

/3, 2S/0

AUTHOR: Chistyakov, A. I.

TITLE: The problem of drift of single-axis gyro systems

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 32. Izmeritel'naya tekhnika, no. 1, 1962, 65, abstract 32.1.410. "Tr. Kazansk. aviats. in-ta", no. 59, 1960, 21–25

TEXT: The subject of investigation was to determine what influence the vibrations of the platform relative to an arbitrary axis perpendicular to the stabilization axis had on the behaviour of a single-axis power gyro-system having a relay control of the stabilizing motor. The drift of the system relative to the stabilization axis was found to be a function of the insensitivity zone width of the relay system; of the fixed angle of the gyro system(i.e. the angle between the axis of the gyroscope and a perpendicular to the plane of the outer gimbal); of the moment of friction and moment of inertia relative to the stabilization axis, and finally, of the frequency and vibration period of the platform.

[Abstracter's note: Complete translation.]

Card 1/1

CHISTYAKOV, A.I., inzhener; LAZAREVA, K.I., inzhener.

Desorption apparatus for oxygen removal from water. Energetik
4 no.2:14-15 F '56.   (MLRA 9:5)
        (Feed-water purifucation) (Desorption)

Chistakov, A.]

AKOL'ZIN, P.A. dokter tekhn. nauk; GLUSHENKO, V.V., insh.; LAZAREVA, K.I., insh.; CHISTYAKOV, A.I., insh.

An installation for de-oxygenation of water. Teploenergetika 4 no.12: 54-57 D '57.
(MIRA 10:11)

1. Vsesoyuznyy teplotekhnicheskiy institut.
(Feed-water purification)

BORISENOK, I.T.; GENEROZOV, M.N.; YEREMEYEV, N.V.; KARAMYSHKIN,
V.V.; KUZOVKOV, N.T.; BORISENOK, I.T.; KULIKOVSKAYA, N.V.;
SAVINOV, G.I., kand.fiz.-mat. nauk, dots. [deceased];
PIROGOV, I.Z.; Prinimali uchastiye: BALAYEVA, I.A.;BALAKIN,
B.M.; BELYAYEVA, G.M.; BELYAKOV, V.I.; VELERSHTEYN, R.A.;
ZHARKOV, G.M.; KOROLEVA, V.Ye.; LITVIN-SEDOY, M.Z.; POPOV,
A.I.; PRIVALOV, V.A.; STUKALOVA, L.M.; CHISTYAKOV, A.I.;
SAVVIN, A.B., red.; CHISTYAKOVA, K.S., tekhn. red.

[Laboratory work in theoretical and applied mechanics] Labo-
ratornyi praktikum po obshchei i prikladnoi mekhanike. Mo-
skva, Izd-vo mosk. univ. 1963. 233 p.   (MIRA 16:12)

1. Kafedra prikladnoy mekhaniki Moskovskogo gosudarstvennogo
universiteta (for Balayeva, Balakin, Belyayeva, Belyakov,
Velershteyn, Zharkov, Koroleva, Litvin-Sedoy, Popov, Privalov,
Stukalova, Chistyakov).
        (Mechanics--Laboratory manuals)

CHISTYAKOV, A.I.

Automatic relay device for controlling cyclic production processes.
Trudy KAI no.78:27-31 '63.   (MIRA 18:10)

TALYPOV, G.B.; CHISTYAKOV, A.I.

Effect of heavy prior plastic deformations on the yield
point of low carbon steels. Issl. po uprug. i plast. no.3:
249-251 '64.   (MIRA 17:6)

BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

Entropy terms as an expression of the uncertainty principle.
Dokl.AN SSSR 149 no.1:68-71 Mr '63.   (MIRA 16:2)

1. Institut elementroorganicheskikh soyedineniy AN SSSR.
Predstavleno akademikom I.V.Obreimovym.
              (Entropy)   (Functional analysis)

Chistyakov, A. L.

AUTHORS: Bochvar, D. A., Stankevich, I. V., Chistyakov, A. L. 62-11-27/29

TITLE: On the Relationship Between the Electron-Gas Method and the Moleoular Orbit Method (K sootnosheniyu mezhdu metodom elektronnogo gaza i metodom molekulyarnykh orbit)

PERIODICAL: Izvestiya AN SSSR, Otdel.Khim.Nauk, 1957, Nr 11, pp. 1414-1414 (USSR)

ABSTRACT: This is a letter to the editor. It is shown that instead of the usually applied formula:

$$\frac{d^2\Psi(x)}{dx^2} + \frac{2m}{\hbar} E \Psi(x) = 0 \qquad (1)$$

a much more common equation

$$\frac{d^2\Psi(x)}{dx^2} + Ak\Psi(x) = 0 \qquad (2) \qquad \text{can be applied.}$$

That is to say, with the same boundary conditions, where A is a parameter, which is at our disposal. By this equation an oscil- lation system can easily combined, where a certain point $x(C_i)$ is opposed to the i.atom C. If the distance between the adjacent C-atoms is equal, the p.coefficient of the j.linear combination of the molecular orbits methods becomes equal to the value of the j.equation (2) in the point $x(C_p)$. If the distance is different,

Card 1/2

On the Relationship Between the Electron-Gas Method and the   62-11-27/29
Molecular Orbit Method.

the solutions of the equation (2) permit to find approximated values for the coefficients of the linear combination of p_0-functions of the molecular-orbits method. It can be demonstrated that the difference between j+1 and j of the own values of the equation (2) approximately coincides with the difference between j+1 and j energy-level of the molecular-orbits method, if A is chosen in a corresponding manner. If it is chosen

$A = \frac{\hbar^2}{2m}$, the equation (1) is obtained.

ASSOCIATION: Institute for Element-Organic Compounds of the AN USSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

SUBMITTED: September 1o, 1957

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Bochvar, D. A., Stankevich, I. V.,   SOV/62-58-6-31/37
Chistyakov, A. L.

TITLE: Letter to the Editor (Pis'ma redaktoru) Calculation of the Conjunction Energy in the S-Triphenyl-Cyclopropenyl Cation (Raschet energii sopryazheniya dlya S-trifeniltsiklopropenil-kationa)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 6, pp. 793-793 (USSR)

ABSTRACT: In connection with the statement made concerning the synthesis of the S-triphenyl-cyclopropenyl cation (Ref 1) the calculation of this compound was carried out by the LKAO MO-method in π-electron approximation. The authors proceeded from the following assumptions:
1) the σ-skeleton is flat and shows the symmetry group C_{3v},
2) all bond lengths are equal,
3) all Coulomb integrals are equal among themselves (equal to α),
4) all resonance integrals are equal (equal to β),
5) AO is passed over by overlapping integrals. Calculation

Card 1/3

Letter to the Editor. Calculation of the   SOV/62-58-6-31/37
Conjunction Energy in the S-Triphenyl-Cyclopropenyl
Cation

showed that a closed electron shell (in the sense of
Khykkel) exists. 20π-electrons of the system take up
10 molecular orbitals corresponding to their energy (in
ascending order):
$\alpha + 2,61\beta$, $\alpha + 2,06\beta$ (twofold degenerated level),
$\alpha + 1,79\beta$, $\alpha + 1,15\beta$
$\alpha + \beta$ (threefold degenerated level) and $\alpha + 0,76\beta$. For the
compound discussed the conjunction energy (compared with the
system of isolated binary bonds) is $9,16,\beta$ and exceeds the
sum of the conjunction energies in phenyl rings and in the
cyclopropenyl cation by $1,16\beta$. There is 1 reference.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
               (Institute of Elemental-organic Compounds AS USSR)

SUBMITTED: February 26, 1958

Card 2/3

Letter to the Editor . Calculation of the   SOV/62-58-6-31/37
·Conjunction Energy in the S̄-Triphenyl-
·Cyclopropehyl Cation

1. Cyclic compounds--Properties   2. Cyclopropenyl ions--Energy   3. Mathematics
4. Perturbation theory

Card 3/3

5(4)

AUTHORS: Bochvar, D. A., Gambaryan, N. P.,   SOV/76-32-12-22/32
             Stankevich, I. V., Chistyakov, A. L.

TITLE: A Qualitative Evaluation of the Stability of Heterocyclic
             Systems by Hueckel's Method of Approximation (O kachestvennoy
             otsenke ustoychivosti geterotsiklicheskikh sistem v ramkakh
             priblizheniya Gyukkelya)

ABSTRACT: E. Hueckel (Ref 1) used the words "closed electron shell" to
             explain the relative stability of cyclic ions. With molecules
             forming regular polygons of CH-groups, the first, not degener-
             ate level is followed by several doubly degenerate levels. If
             these levels are gradually filled in with π-electrons, closed
             electron shells are formed for systems with 2, 6, 10, 14 ....
             π-electrons in accordance with Pauli's principle. When a
             CH-group is replaced by an atom other than a C-atom or when
             a substitution takes place, the energy change may be considered
             as being a disturbance which does not exert any influence on
Card 1/2   the closed shell. A study is made of the general stability of

A Qualitative Evaluation of the Stability of   SOV/76-32-12-22/32
Heterocylic Systems by Hueckel's Method of Approximation

the hepta-ring where a CH-group is replaced by a less
electronegative group, in this special case by boron
("Borepin"). The secular determinant of the molecule is
developed as a polynomial, the number of its positive and
negative roots determined and the conjugation energy of the
system calculated. This method can easily be applied to
heterocyclic systems, if the numerical values of the parame-
ters used in the secular equation are unknown. In some cases,
however, a clear determination of the molecular tracks is
impossible without definite parameter values. Calculations
show that "Borepin" has a closed electron shell.
There are 3 tables and 2 references, 1 of which is Soviet.

ASSOCIATION: Akademiya nauk SSSR (Academy of Sciences, USSR)
               Institut elementoorganicheskikh soyedineniy, Moskva
               (Institute of Element-Organic Compounds, Moscow)

SUBMITTED: June 10, 1957

Card 2/2

SOV/62-59-7-36/38

5(4)

AUTHOR: Chistyakov, A. L.

TITLE: Recurrence Formulas for Some Determinants Occurring in the
              Method of Molecular Orbits (Rekurrentnyye formuly dlya nekotorykh
              opredeliteley vstrechayushchikhsya v metode molekulyarnykh orbit)

ABSTRACT: The formulas mentioned in the title occur with the most simple
              computations of molecular orbits. The latter are regarded as a
              linear combination of atomic orbits in the π-electron approxi-
              mation of a conjugate system, consisting of two atoms x and y,
              and which exhibits a structure identical to that of acenes. Atoms
              x and y need not differ very much from each other. The stable
              determinants then differ only by the even- or odd-numbered cha-
              racter of the ring (n), and according to their symmetry they may
              decompose into two determinants of a lower order (A_S and B_S).

              For the computation of the individual members the determinants
              A_S and B_S are introduced from which these may be reproduced in
              four different forms. The computation is not shown, the recurrence

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Recurrence Formulas for Some Determinants Occurring in   SOV/62-59-7-36/38
the Method of Molecular Orbits

formulas for A_S and B_S are only mentioned. The form of the individual members for an arbitrary n (n= number of rings in the system) then amounts to : a) n=2k $P_{2k}(z) = (z-1)A_k^{(1)}A_k^{(2)}$ and b) n= 2k+1 $P_{2k+1}(z) = B_{k+1}(z-1) \cdot A_k^{(3)}$. In conclusion, the author thanks D. A. Bochvar for supervision.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
(Institute of Elemental-organic Compounds of the Academy of
Sciences, USSR)

SUBMITTED: January 30, 1959

Card 2/2

SOV/56-36-2-48/63

24(5)
AUTHORS:

Bochvar, D. A., Gambaryan, N. P., Stankevich, I. V., Chistyakov, A. L.

TITLE:

On Some Properties of Symmetry of the Eigenfunctions of the Equation of Schrödinger (O nekotorykh svoystvakh simmetrii sobstvennykh funktsiy uravneniya Shredingera)

PERIODICAL:

ABSTRACT:

The present paper deals with 2 facts hitherto (according to the authors' opinion) not discussed in literature. 1) The symmetry groups of the eigenfunctions of the Schrödinger (Shredinger) equation are subgroups of the symmetry group G_H of the corresponding Hamiltonian $\hat{H}$. 2) The contrary of statement 1) is not true, i.e. there are no subgroups of the group G_H which are not symmetry groups of the eigenfunctions of a given Schrödinger equation. The proofs of the correctness of these 2 assertions are discussed step by step. The groups of the solutions of a Schrödinger equation with a total system of eigenfunctions consist of all the possible co-kernels of the symmetry

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SOV/56-36-2-48/63

On Some Properties of Symmetry of the Eigenfunctions of the Equation of Schrödinger

group of the Hamiltonian. There are 3 references, 1.of which is Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Element-Organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: October 25, 1958

Card 2/2

86827

S/020/60/135/005/015/043
B019/B067

24.4500

AUTHORS: Bochvar, D. A., Stankevich, I. V., and Chistyakov, A. L.

TITLE: Entropy of Localization and Extension in a Quantum Mechanical System

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 5, pp. 1095-1096

TEXT: In a previous paper (Ref. 1), the authors together with N. P. Gambaryan suggested the definition of delocalization of a particle in a steady state of a quantum mechanical system as entropy of localization which might be calculated by appropriate eigenfunctions of the system. If $\psi(x_1, y_1, z_1, \ldots, x_n, y_n, z_n)$ is the steady state of a system consisting of n particles, the probability density for the position of the i-th particle is $\phi(\tau_i) = \int_{R_{3n-3}} |\psi|^2 d\tau_1 \ldots d\tau_{i-1} d\tau_{i+1} \ldots d\tau_n$, and the entropy of the localization $h_i = - \int_{R_3} \phi(\tau_i) \log \phi(\tau_i) d\tau_i$. Here, R with the

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86827

Entropy of Localization and Extension in
a Quantum Mechanical System

S/020/60/135/005/015/043
B019/B067

respective index denotes the space $d\tau_i = dx_i dy_i dz_i$, over which integration
is made. In the present paper, a system is studied consisting of m + k
particles. m particles (e.g., positive nuclei) are fixed in this system,
k denotes the number of similar particles (e.g., electrons). The problem
arises as to what degree this definition is connected with the concept of
extension. The authors attempted to introduce a theoretical characteristic
of extension into the quantum mechanical system considered here. They
regard a coincidence of this quantum mechanical concept and the concept
of space in the ordinary sense as necessary. It may then easily be
demonstrated that with homogeneous distribution (constant density) in a
given finite range D of the space R with a volume V_D (in the ordinary

sense) the local entropy h which is determined by $h = -\int_D \rho \log_b \rho \, d\tau$ is

$\log_b V_D$, i.e., $V_D = b^h$. In the following, the authors define the h-extension
of particles in the quantum mechanical system (with given state) by

$V_H = e^h$ volume units. It is found that the h-extension is independent of

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Entropy of Localization and Extension in
a Quantum Mechanical System

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B019/B067

the base of the logarithm which proves the correctness of the definition.
Finally, some examples are briefly discussed in which N. P. Gambaryan and
E. S. Bogatova calculated the particle entropy in a potential well. There
is 1 Soviet reference.

PRESENTED: June 29, 1960, by I. V. Obreimov, Academician .

SUBMITTED: June 23, 1960

Card 3/3

BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

Conjugation energies of the phenylcyclopropenyl and diphenylcyclo-
propenyl cations. Zhur. fiz. khim. 34 no. 11:2543-2545 N '60.
(MIRA 14:1)

1. Akademiya nauk SSSR, Institut elementoorganicheskikh soyedineniy.
            (Cyclopropene)   (Chemical bonds)

BOCHVAR, D.A.; STANKEVICH, I.V.; CHSTYAKOV, A.L.

Entropy of localization and expansion in a quantum mechanical system. Dokl. AN SSSR 135 no.5:1095-1096 D '60.   (MIRA 13:12)

1. Predstavleno akademikom I.V. Obreimovym.
      (Entropy)   (Quantum theory)

BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

    Conjugation energies of some boron-containing systems. Izv. AN
    SSSR Otd.khim.nauk no.12:2252-2253 D '61.   (MIRA 14:11)

    1. Institut elementoorganicheskikh soyedineniy AN SSSR.
        (Heterocyclic compounds) (Boron compounds)

BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

Symmetry of solutions in an eigenvalue problem. Usp.mat.nauk 16
no.3:155-158 My-Je '61. (MIRA 14:8)
(Eigenvalues) (Symmetric functions)

BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

    Energy levels of really alternant systems. Zhur.fiz.khim. 35
    no.6:1337-1342 Je '61.   (MIRA 14:7)

    1. Institut elementoorganicheskikh soyedineniy AN SSSR.
         (Hydrocarbons)   (Molecules)

BOCHVAR, D. A.; STANKEVICH, I. V.; CHISTYAKOV, A. L.

Some integral characteristics of distributions applied to quantum-mechanical systems. Entropy of localization, extension, and degree of filling in a quantum-mechanical system. Zhur. fiz. khim. 36 no.12:2674-2679 D '62.   (MIRA 16:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

(Quantum theory)

BOCHVAR, D.A.; CHISTYAKOV, A.L.

"Superfluous" elements of symmetry in solutions by the molecular orbital LCAO and electronic gas methods. Zhur. fiz. khim. 35 no.5:1162 My '61.
(MIRA 16:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Molecular rotation)

L 8861-65   EWT(1)   IJP(c)/ESD(t)/AS(...)...(ASD...) ...
ACCESSION NR: AP4045092 ...

AUTHOR: Chistyakov, A. L.

TITLE: On the scattering operator in the second ...

SOURCE: AN SSSR. Doklady, v. 156, no. 1, ...

TOPIC TAGS: scattering operator, scattering ...

... existence is proved of ...
... the energy operators ...
... able number of particles. The energy operators are repre-
sented in the form $H = H_0 + V$ where

$$H_0 = - \int a^*(\xi)\, \Delta_{\xi} a(\xi)\, d\xi.$$

$$V = \sum_{i,k,m \in N} (V_{mk} + V_{mk}'), \quad V_{mk} = \dots$$

Card   1/2

with P_s being the kinetic energy of the

thank F. A. Berezin under whose

was performed." This report was presented by I. G.

Orig. art. has: 11 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii
nauk SSSR (Institute of Organoelemental

SUBMITTED: ..Mar64

BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

Level diagrams of aza-boron alternant systems. Zhur. fiz.
khim. 39 no.6:1365-1372 Je '65.   (MIRA 18:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
Submitted Jan. 4, 1964.

CHISTYAKOV, A.L.

    Multichannel scattering. Usp. mat. nauk 18 no.5:201-208 S-O
    '63.
                             (MIRA 16:12)

GINZBURG, TSezar' Grigor'yevich; CHISTYAKOV, Aleksandr Mikhaylovich;
GIRSHKAN, I.A., red.; FEL'DSHTEYN, B.S., tekhn.red.

[Designing wear resisting anti-cavitation concretes] Proektiro-
vanie iznosoustochivogo protivokavitatsionnogo betona. Moskva,
Gos.energ.izd-vo, 1959. 34 p. (MIRA 13:4)
(Concrete) (Hydraulic structures)

CHISTYAKOV, A.M., starshiy nauchnyy sotrudnik, kand.tekhn.nauk

Methods for energetic testing of models of reaction-type
hydraulic turbines. Izv.VNIIG 48:173-195   '52.

(MIRA 12:5)

(Hydraulic turbines--Models)

CHISTYAKOV, A.M., starshiy nauchnyy sotrudnik, kand.tekhn.nauk

Approximate method for the solution of the scale-effect pro-
blem for hydraulic turbines. Izv.VNIIG 50:167-179 '53.

(MIRA 12:5)

(Hydraulic turbines)

OSV/124-57-5-5569
Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 66 (USSR)

AUTHOR: Chistyakov, A. M.

TITLE: On the Problem of the Scale Effect and Its Influence on Water-turbine Parameters (K voprosu izucheniya problemy masshtabnogo effekta i yego vliyaniya na parametry gidroturbiny)

PERIODICAL: Izv. Vses. n.-i. in-ta gidrotekhn., 1954, Vol 52, pp 203-222

ABSTRACT: A critique is presented of the first-approximation similitude formulas of water turbines which are still being applied to the laboratory tests of model turbines. By comparing the results of full-scale tests on a PL-91-900 turbine with those of a 460-mm-diameter model. the author demonstrates that the principal universal efficiency characteristic $\eta = f(n_i', Q_i')$ which represents the efficiency of the turbine as a function of the reduced rpm and the reduced discharge as expressed with the aid of first-approximation similitude formulas is not a true characteristic for a scale series. The author considers the cause thereof to be the degree of approximation and the intuitive judgment employed by the existing methods of applying correction factors in the universal characteristic of the turbine in the course of

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extrapolation of its model characteristics to that of a full-scale turbine. Because of the alleged difficulty of splitting the value of the total efficiency of the turbine η into its components, the existing methods of extrapolation assume the volumetric and the mechanical efficiencies of the model and the full-scale turbine to be equal. The author considers that at the present status of the scale-effect problem it is permissible to assume the equivalence of the volumetric but not of the mechanical efficiencies since the latter are distinctly different. Mechanical-loss analysis conducted on a number of full-scale turbines revealed that these losses comprised from 0.1% to 0.3% of the turbine power, whereas those of a 180-mm model were 4%. Such an appreciable difference in the mechanical losses of the model and the full-scale turbine points to the necessity of a careful determination of these losses during model testing and the subsequent consideration of its effects upon the efficiency of the full-scale turbine. By using the formulas of dynamic similarity of turbines proposed by A. A. Sabaneyev the author worked out a new universal characteristic for RO-123-46 and PL-19-18 turbines, expressing the hydraulic efficiency of a turbine ϵ in terms of more precisely defined values of the reduced rpm n'* and the reduced discharges $Q_1'*$ which were determined by the formulas

$$n_1'^* = \frac{nD_1}{\sqrt{\epsilon H}} \text{ rpm}, \qquad Q_1'^* = \frac{Q}{D_1^2 \sqrt{\epsilon H}} \text{ m}^3/\text{sec}$$

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The hydraulic efficiency of the model ϵ was considered as $\epsilon = \eta/\eta_1$ where η and η_1 are the total and the mechanical efficiencies of the model, respectively. According to the author the new universal characteristic $\epsilon = f(n_1^*, Q_1^*)$ worked out for the two types of turbines mentioned above differs substantially from the old-type characteristic and reflects the energy characteristics of the turbine with greater precision. Bibliography: 11 references.

R. A. Karapetyan

Card 3/3

1545. Chistyakov, A. M., and Karapetyan, R. J.. An assembly for the measurement of axial force in model hydro turbines of the reactive type (in Russian), Izv. Vses. n.-i. in-ta sidrotekhn. 52, 223-230, 1954; Ref. Zh. Mekh. 1956, Rev. 6270.

The measurement of the axial force is based on the recording with the aid of strain gages on three radially disposed cantilever arms, on to which is transferred the axial force of a model hydro-turbine from its shaft. The registration of the readings of the deformation indicators is done with the aid of a needle-galvanometer with a mirror scale, built into the diagonal of the equal branch resistance bridge, fed by direct current.

Authors give a description of the construction of the apparatus, the results of the trials and calibration of the apparatus, which is divisible into its static and dynamic parts.

N. A. Gretsov, USSR
Courtesy Referativnyi Zhurnal
Translation, courtesy Ministry of Supply, England

AUTHOR: Chistyakov, A. M.

TITLE: Some Considerations on Theoretical Investigations of the Size Effect
            in Hydraulic Turbines and on the Physical Significance of This
            Phenomenon (Nekotoryye soobrazheniya o teoreticheskikh issledova-
            niyakh masshtabnogo effekta v gidroturbinakh i o fizicheskoy sushch-
            nosti etogo yavleniya)

PERIODICAL: Izv. Vses. n.-i. in-ta gidrotekhn., 1955, Vol 54, pp 185-197

ABSTRACT: An examination of the determination of the magnitude of the turbine-
            efficiency correction in the extrapolation from model to full scale.
            The author starts from the assumption that the ratio of the hydraulic
            efficiency (for the optimal regime) of the model to that of the full-scale
            turbine is solely a function of the Reynolds number. Here the term
            "hydraulic efficiency" is used to denote the total efficiency after deduc-
            tion of the mechanical losses in the supports of the turbine. The author
            utilizes this assumption and employs a number of model and full-scale
            tests to construct a computation graph for the relationship between the
Card 1/2   ratio of the model and full-scale efficiencies and the ratio of the

Some Considerations on Theoretical Investigations of the Size Effect (cont.)   SOV/124-58-1-620

Reynolds numbers. Naturally, the size effect is more pronounced on models of small dimensions. The author points out that if the diameter of the runner of a model is assumed to be 400-500 mm, then in the transition to a full-scale turbine having a runner-diameter of 6,000-9,000 mm the change in hydraulic efficiency will be very small, inasmuch as in this case we find ourselves in the range of self-similarity. In the optimal-efficiency range the total efficiencies of a model and a corresponding full-scale turbine will virtually coincide except for the differences in mechanical losses.

A. Yu. Kolton

Card 2/2

AUTHOR: Chistyakov, A. M.

TITLE: The Planning and Conduct of Tests of Water-turbine Assemblies
            and of Their Mechanical Equipment (Organizatsiya i provedeniye
            ispytaniy gidroagregatov i ikh mekhanicheskogo oborudovaniya)

ABSTRACT: The problems of devising new methods for testing water-
            turbine models are discussed. Taken as the basis of the meth-
            ods for investigating water turbines is the more refined theory
            of reduced group characteristics worked out at VNIIG (the All-
            Union Research Institute of Hydraulic Engineering) by A.A.
            Sabaneyev. Results are set forth of an experimental investiga-
            tion of water turbines made by the proposed methods. Upon
            analyzing the experimental data the author concludes that there
            is a need for introducing into laboratory practice more precise
            formulae for full-scale extrapolation of model-test results. In
Card 1/2   order to obtain such refined formulae for extrapolation of the

SOV/124-58-7-7655

The Planning and Conduct of Tests of Water-turbine Assemblies (cont.)

hydraulic efficiency of a model to full scale, he proposes that tests be made of the late-model series of PL495 turbines with a range of rotor diameters from 0.25 to 6.6 meters. Bibliography: 7 references

Yu.A. Lashkov

1. Turbines--Equipment   2. Turbines--Model test results   3. Juice--Applications

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CHISTYAKOV, A.M.; GIRSHKAN, I.A., red.

[New methods for using models in the study of reaction turbines
and hydraulic turbine units for hydroelectric power plants.]
Novaia metodika model'nykh issledovanii turbin reaktivnogo tipa
i gidroturbinnykh blokov GES. Moskva, Gos. energ. izd-vo, 1958. 88 p.
                                                    (MIRA 11:12)
                    (Hydraulic turbines)

CHISTYAKOV, A.M., starshiy nauchnyy sotruinik, kand.tekhn.nauk

Influence degree of the effect of the scale on hydraulic efficiency
of reaction turbines under optimum conditions of work. Izv.
VNIIG 59:152-163 '58.   (MIRA 13:7)
                        (Hydraulic turbines)

S/194/62/000/007/086/160
D295/D308

AUTHOR: Chistyakov, A.M.

TITLE: Method of investigating cavitation-type ultrasonic
             radiations by the ВНИИГ-КА-2 (VNIIG-KA-2) analyzer

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,
             no. 7, 1962, abstract 7-5-37 s (In collection: Novyye
             metody izmereniy i pribory·dlya gidravlich. issled.,
             M., AN SSSR, 1961, 162 - 168)

TEXT: At the VNIIGidrotekhnika, the physical nature of cavitation
in liquids and the mechanism of the destruction of materials by ca-
vitation were studied using high-speed filming. Filming at a speed
of 4000 frames per second and observation of the region where the
surface of a concrete sample was destroyed by cavitation have con-
firmed modern views on the phenomenon of cavitation, according to
which a cavitation region is considered as a region occupied by a
two-phase liquid. The flow in this region ends in a condensation
jump of supersonic velocity. The region of the condensation jump
corresponds to the boundary of the cavitation region. The KA-2
Card 1/2

Method of investigating cavitation-type..   S/194/62/000/007/086/160
D295/D308

(KA-2) cavitation analyzer is described, which can be used to de-
tect and analyze a wide spectrum of ultrasonic radiations proceed-
ing direct from the cavitation itself. The frequency spectrum of
the cavitation analyzer is divided into 5 bands: 5.5 - 18; 17 - 50;
50 - 175; 165 - 580 and 450 - 1600 kc/s. A diagram of the analyzer
and the calibrating procedure are shown, and the construction of
piezoelectric pickups with an open disc of barium titanate and their
calibration are described. [Abstracter's note: Complete transla-
tion.]

Card 2/2

CHISTYAKOV, A.M.; SUKHAREVA, L.A.; KOVAL'CHUK, L.M.; KISILEV, M.R.

    Investigating the internal stresses in cemented joints. Plast.massy
    .no.1:57-59 '64.   (MIRA 17:6)

ACCESSION NR: AP4037275   S/0190/64/006/005/0803/0805

AUTHOR: Zubov, P. I.; Sukhareva, L. A.; Kiselev, M. R.; Chistyakov, A. M.

TITLE: Effect of adhesion on internal stresses in adhesive joints

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 5, 1964, 803-805

TOPIC TAGS: adhesive, PN-1 polyester, adhesion, coating, internal stress, glass, glass reinforced plastic

ABSTRACT: The effect of the nature of the surfaces to be bonded on the magnitude of internal stresses in adhesive joints has been studied. The internal stresses were measured by an optical method. Adhesion of the glue line to the bonded surfaces was determined from ultimate stresses causing spontaneous peeling and from the shearing stress causing failure of the joint. Internal stresses in coatings were also measured. Experiments were conducted with adhesives with

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ACCESSION NR: AP4037275

a base of PN-1 polyester and glass or glass-reinforced plastics. It was shown that: Internal stresses in joints are considerably higher than in coatings owing to a larger adhesive-substrate contact area. Internal stresses in joints are higher between surfaces of glass and glass-reinforced plastic than between two glass surfaces owing to better adhesion of the polyester to glass-reinforced plastic. Internal stresses in joints and coatings are distributed irregularly along the joint and are highest on its perimeter. They increase linearly with an increase of the joint or-coating thickness and are determined by the adhesive-substrate bond strength. Orig. art. has: 4 figures.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry, AN SSSR)

SUBMITTED: 30May63   DATE ACQ: 09Jun64   ENCL: 00

SUB CODE: MT   NO REF SOV: 004   OTHER: 000

Card 2/2

CHISTYAKOV, A.M., inzh.

Gluing honeycomb constructions with preliminary drying of the layer of glue. Der. prom. 14 no.5:8-9 My '65.   (MIRA 18:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy im. V.A. Kucherenko.